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EXAMINER

CHAPMAN, GINGER T

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/723,761	MACDONALD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ginger T. Chapman	3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 17, 18, 22-28 and 32-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 18, 22-28 and 32-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### **Status of the Claims**

Claims 1-16, 19-21 and 33 are previously canceled, independent claims 17 and 35 are amended, claims 46 and 47 are added, claims 17-18, 22-28 and 34-47 are pending in the application.

### **Response to Arguments**

Applicant's arguments filed 29 October 2010 have been fully considered but they are not persuasive. Applicant argues the following:

(I) the claims are amended to recite that the odor sorbent substrate is liquid pervious, and that the substrate has a surface that is coated with a durable activated carbon ink that is durably attached to the substrate.

(II) Applicant interprets Niki as teaching a deodorant agent containing sheet and that the deodorizing agent is only prevented from falling off of the sheet because the sheet is held between two pulp sheets.

(III) Applicant interprets Niki as teaching that the porous deodorizing agent comprising activated carbon is preferably hydrophobic, and Applicant interprets this as implying that the fabric of the sheet that contains the activated carbon deodorizing agent is not liquid pervious, but has pointed to no support in Niki for this conclusion.

(IV) Applicant interprets Falat as failing to disclose any absorbent articles; Applicant has further interpreted the Office action as suggesting that Falat does not disclose absorbent articles.

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(V) Applicant asserts that one of ordinary skill in the art would not be motivated to combine the teachings of Niki and Falat because Niki teaches odor sorbent substrates for absorbent articles and Falat teaches odor sorbent substrates used for packaging materials.

(VI) Applicant interprets the references as teaching away from Applicants' claimed invention because Applicant interprets both Niki and Falat as teaching liquid impermeable layers, Applicant argues that the cellulosic paper and paperboard materials taught by Falat are not liquid pervious, but has pointed to no support in Falat for this conclusion.

(VII) Applicant argues that one of ordinary skill would not be motivated to modify the references because Applicant believes that the examiner has parsed the references but has not considered the invention as a whole.

These arguments are not persuasive for the following reasons:

(I) As best depicted in Figures 2 and 3 and disclosed at column 4, lines 56-63, Niki teaches that the substrate 2 that the odor sorbent activated carbon is pervious because the substrate 2 is wrapped around the top and longitudinal sides of the absorbent member 10 and covers the liquid-receiving upper surface of the central portion of the absorbent member 10 comprising absorbent core 11 such that liquid deposited on the substrate 2 flows through the substrate 2 in order to reach and be absorbed by the absorbent core 10, 11; if the substrate 2 were not liquid pervious, then liquid would pool and run off the top and sides of the absorbent core and liquid would not flow through the substrate 2 into the core 10, 11. Additionally, Niki discloses at column 2, lines 16-30, lines 56-60; column 3, lines 13-15, lines 28-33; column 4, lines 56-61, that the substrate 2 such that is comprised of fibrous materials such as wood pulp, straw, cotton, paper, nonwoven fabric and the like. These known fibrous materials are known to be liquid

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pervious, and Niki does not disclose treating these known liquid pervious substrates to render them liquid impervious, thus there does not appear to be support in Niki to support the conclusion that the substrate is not liquid pervious which would defeat the purpose of permitting the liquid deposited on the center of the absorbent member flowing into the absorbent core for storage.

Additionally, Applicant has provided no support or citations in Niki that suggest that the sheet is not liquid pervious, Applicant points to Niki teaching that the sheet can be made by a wet papermaking process, however this does not suggest that the sheet is not liquid pervious, especially in light of Niki disclosing that liquid flows through the sheet into the absorbent core.

(II) The examiner agrees that Niki discloses that the pulp sheets 3 assist in preventing the deodorizing agents from falling off of the deodorizing sheet 2. However, Niki expressly discloses binders for binding the activated carbon deodorizing agent to the sheet. In particular, Niki, at column 5, lines 1-12, expressly discloses:

A deodorizing agent-containing sheet 2 is obtained by forming a slurry containing a porous deodorizing agent and a fibrous material into a web by a usual wet papermaking process. The slurry can contain various binders for binding the porous deodorizing agent to the web as well as various additives customarily employed in papermaking. A deodorizing agent-containing sheet 2 can also be prepared by forming a slurry comprising the fibrous material and necessary additives into a web and impregnating the web with a dispersion of the porous deodorizing agent and a binder.

Therefore, Niki discloses both the use of at least one binder and also the use of the sheets 3 to assist in preventing the activated carbon and binder from “falling off” of the substrate 2, the instant claimed invention uses binders to prevent the activated carbon from falling off of the substrate, thus the examiner has a reasonable basis to contend that the adhesives of Niki will perform the substantially identical binder function in the substantially identical manner, therefore this argument is not persuasive.

(III) Niki does not imply that the deodorizing containing sheet is not liquid pervious, Niki implies the opposite, that the substrate 2 is liquid pervious to permit liquid to flow therethrough into the absorbent core 10, 11. Applicants’ assertion that because Niki discloses that the porous deodorizing agent comprising activated carbon is desirably hydrophobic does not imply that the fabric sheet containing the activated carbon itself is not liquid pervious. Niki discloses that the porous surface of the activated carbon is preferably hydrophobic (column 3, lines 61-66) but is adsorbent in order to absorb bodily odors generated. Niki discloses that the absorbent core is covered with a liquid permeable topsheet (column 1, lines 28-29) so that fluid can flow into the absorbent core 11. The substrate sheet 2 covers the central portion of the absorbent member 10 and permits liquid to flow through to the core 11 to be absorbed by the core, if the substrate 2 covering the absorbent core were not liquid pervious, then fluids deposited on the substrate sheet 2 would not flow through the sheet 2 into the absorbent core.

Applicant has pointed to no supporting citations in Niki disclosing that the sheet is not pervious; Applicant only asserts that because Niki teaches that the activated carbon particles are

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preferably hydrophobic, Applicant assumes that the sheet is not pervious. Niki additionally discloses, at column 4, lines 38-50, that the porous deodorizing compound is adsorbent.

The examiner notes that the porous deodorizing agent of Niki is activated carbon, at column 4, lines 15-17 Niki discloses the substantially identical compounds as the instant Specification discloses at PG-Publication paragraph [0021] as suitable embodiments of the instant claimed invention. Niki discloses the substrate comprising fibrous materials such as wood pulp, non-wood pulp, straw, cotton fibers, synthetic fibers, nonwoven fabrics, and fibrous and particulate superabsorbent polymers, which are known to be liquid pervious; the instant Specification at PG-Publication paragraphs [0029-31] discloses the instant substrate can be nonwoven fabrics, films, tissues, paper towels, woven and nonwoven fabrics, pulp, cotton fibers, superabsorbent particles, and synthetic fibers. Therefore, the examiner has a reasonable basis to contend that the substrate of Niki is liquid pervious to the substantially same extent that the instant materials are liquid pervious, therefore this argument is not persuasive.

(IV) With respect to Applicants' argument that Falat fails to disclose absorbent articles, and Applicant interpreting the Office action as suggesting that Falat does not disclose various limitations of the present claims appears to be a misinterpretation of the Office action and of Falat. In particular, Falat is concerned with coating flexible substrates with durable activated carbon, the flexible substrates of Falat can be both liquid pervious and liquid impervious because Falat expressly discloses prior art pervious substrates that also include absorbent hydrophilic and cellulosic materials such as, inter alia, absorbent inner soles for shoes, nonwoven fabric pads for absorbing odors in diaper container liners, animal litter, prior art paper-based packaging materials, paperboard, and films. With respect to the films Falat teaches coating with durable

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activated carbon ink, Falat does not expressly disclose whether the films are liquid pervious or impervious; however, it is well known that films can be liquid pervious as liquid pervious films are widely used in the diaper art for diaper topsheets and other layers.

Applicant has pointed to no specific support in Falat that the films of Falat are not liquid pervious, therefore, because liquid pervious films are widely known and used, and because Falat does not expressly exclude the use of liquid pervious films for the durable activated carbon coatings of Falat, the examiner has a reasonable basis to contend that Falat contemplates both liquid pervious and impervious films as suitable substrates for the durable activated carbon ink coatings.

(V) One of ordinary skill in the art would be motivated to combine the teachings of Niki and Falat because both are directed to odor sorbent substrates comprising activated carbon and binders used to solve the problems of providing materials that can adsorb and contain objectionable odors generated by articles such as diapers, shoes, animal litters, etc. that generate objectionable odors.

(VI) With respect to the references as teaching away from Applicants' claimed invention because Applicant interprets both Niki and Falat as teaching liquid impermeable layers, this argument is not persuasive because Niki discloses liquid pervious layers, Falat discloses flexible layers which can include both pervious and impervious layers because Falat does not exclude pervious layers from the flexible substrates contemplated. Applicant argues that the cellulosic paper and paperboard materials taught by Falat are not liquid pervious, however, Applicant has pointed to no support in Falat for this conclusion; additionally, liquid pervious films are well known and are not expressly excluded in the films taught by Falat.



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(VII) With respect to Applicants' argument that the examiner has parsed the references but has not considered the invention as a whole, this argument is not persuasive because the examiner has considered the invention as a whole; however, all that is contained in the instant claims is contained in the teachings of the prior art as applied to the claims.

Therefore for the reasons detailed above, the examiner respectfully traverses Applicants' arguments and maintains the art rejections of the rejected claims.

**Withdrawn rejections:**

The rejection of claim 17 under 35 USC 112, second paragraph, made of record in the previous Office action, is withdrawn in view of Applicants' amendment to the claim.

**Claim language interpretation**

The examiner notes that the claim language, "the activated carbon ink including only activated carbon particles and at least one binder.", has not been specifically defined by Applicants and thus will be given its broadest customary interpretation, i.e. the dictionary definition, in light of the Specification. Careful review of the instant Specification, in particular at PG-Publication paragraphs [0022, 0045-9, 0056-9, 0068-71], Examples 1-10, indicates that the only working examples or descriptions of activated carbon ink disclosed are the commercially available activated carbon and binder inks supplied under the product designation NUCAR sold by MeadWestvaco.

In particular, the only formulations of the claimed ink disclosed in the instant Specification are: NUCAR PMA Ink activated carbon and binder ink sold under the designation DPX-7861-49A consisting of 15 weight percent carbon, 11 weight percent styrene-acrylic binder and 74 weight percent water; and NUCAR PMA activated carbon and binder ink

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consisting of 15 weight percent carbon, 12 weight percent styrene-acrylic binder and 73 weight percent water.

Thus the only activated carbon inks described in the instant Specification are the two commercially sold NUCHAR inks by MeadWestvaco; and the only specific binder enabled in the instant Specification is Nuchar's styrene-acrylic binder. Therefore the "at least one binder" is being interpreted as any "at least one" binder and binders, although the examiner notes that the only binder enabled or supported in the instant Specification is styrene-acrylic.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 17-18, 22-28, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niki et al (US 6,657,098) in view of Tanaka et al (US 7,473,817 B1) and further in view of Falat et al (US 6,639,004).

**With respect to claim 17**, Niki discloses a personal care product 20 comprising:

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a liquid impervious baffle 22;

a liquid pervious liner 21;

an absorbent core 11 (column 2, lines 16-18) positioned between the baffle 22 and the liner 21 (column 1, lines 51-54 and lines 58-60); and

a liquid pervious odor sorbent substrate 1 (column 4, lines 56-64, and column 1, lines 29-30, disclosing that the absorbent core 11 is covered by a liquid permeable topsheet, if the odor sorbent substrate 1 was not liquid pervious, then liquid discharged onto the upper center surface 10 of the absorbent core 11 covered by the odor sorbent substrate 1 would not be absorbed into the core but would pool on the surface and run off the sides, defeating the purpose of a liquid permeable topsheet), positioned between the baffle 22 and the absorbent core 11 and between the liner 21 and the absorbent core 11 (column 2, lines 16-18), and wrapped around the absorbent core in a manner that one or more sides are left open (column 2, lines 16-23; fig. 2, teaching the odor sorbent substrate is wrapped around the core in a manner that the end sides are left open), wherein the substrate 1 has a surface 2 that is coated with a durable activated carbon ink (column 2, lines 25-49), the activated carbon ink consisting of activated carbon particles (column 4, line 16-21) and at least one binder (column 5, lines 1-12).

Niki discloses the claimed invention except for expressly disclosing that the ink is durably attached to the substrate. Niki, at column 3, lines 13-33 and column 4, lines 1-20 and lines 55-57, discloses that the substrate sheet 2 can be formed by mixing the deodorizing agent with fibers and adhesives, i.e. binders, to produce a web. Tanaka, at column 1, lines 5-10, provides motivation for odor sorbent substrates for absorbent articles such as diapers, animal litter sheets, incontinence articles, etc. Tanaka, at column 4, lines 54-55, provides motivation for

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activated carbon as an odor sorbent. Tanaka, at column 5, lines 50-62, provides motivation to secure fixability of the odor sorbent to the substrate, and also for increasing the strength of the substrate, by utilizing binders.

Tanaka, at column 5, lines 53-62, teaches that binders useful for securely fixing the carbon to the substrate include fibers and binders used in web and papermaking processes that are disclosed in Niki, at column 3, lines 13-33 and column 5, lines 1-20. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made that the binders taught by Tanaka would securely fix the odor sorbent to the substrate as taught by Niki and thus would be durably attached.

Niki discloses the claimed invention except for expressly disclosing that the activated carbon ink including only activated carbon particles and at least one binder. Niki, at column 3, lines 1-20, provides a working example of making the odor sorbent and discloses that various additives customarily employed can also be added, however Niki does disclose any other additives except for the activated carbon particles and at least one binder, therefore although Niki appears to contemplate the possibility of other additives, the working example includes only carbon and binder and thus Niki does not teach any specific additives and thus meets the claim.

In the alternative, Niki provides motivation for odor sorbent substrates comprising activated carbon particles and binder. Falat, at column 1, lines 40-60 and column 2, lines 22-26, provides motivation for odor sorbent substrates coated with durable carbon ink to absorb odors from materials generating objectionable odors. Falat, at column 1, lines 53-56, teaches activated carbon inks commercially available under the name NUCHAR sold by Westvaco Corporation, i.e. MeadWestvaco Corp, a company having headquarters and offices in the United States.

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Careful review of the instant Specification, in particular at PG-Publication paragraphs [0022, 0045-0049; 0056-0059; 0068-71], Examples 1-10 indicates that the only working examples or descriptions of activated carbon ink disclosed are the commercially available activated carbon and binder inks supplied under the product designation NUCCHAR sold by MeadWestvaco. In particular, the only formulations of the claimed ink disclosed in the instant Specification are: NUCCHAR PMA Ink activated carbon and binder ink sold under the designation DPX-7861-49A consisting of 15 weight percent carbon, 11 weight percent styrene-acrylic binder and 74 weight percent water; and NUCCHAR PMA activated carbon and binder ink consisting of 15 weight percent carbon, 12 weight percent styrene-acrylic binder and 73 weight percent water.

Therefore the only activated carbon inks described in the instant Specification are the commercially sold NUCCHAR inks by MeadWestvaco; if said ink is commercially available it is de facto not novel.

Falat, at column 1, lines 53-56, teaches the suitability of activated carbon inks such as NUCCHAR inks for odor sorbent substrates, thus providing motivation for such substrates, and at column 3, lines 2-20 Table 1, teaches activated carbon ink including only activated carbon particles and at least one binder (column 2, lines 47-49). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the activated carbon ink consisting of activated carbon particles and at least one binder as taught by Falat for the substrate of Niki and Tanaka since Falat states that the benefit of such is that it absorbs waste odors and is durable, i.e. does not fall off of the substrate to which it is applied.

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**With respect to claim 18**, Niki discloses the personal care product is selected from the group consisting of diapers, training pants, adult incontinent products, and feminine hygiene products (column 5, lines 48-52; column 4, lines 35-37).

**With respect to claims 22-24**, Niki discloses the claimed invention except for the activated carbon particles are present in an amount of between about 2 and 80 wt. % of the substrate on a dry basis, as recited in **claim 22**; about 5 and 75 wt. % as recited in **claim 23**; 10 and 30 wt. %, as recited in **claim 24**. Niki discloses activated carbon particles are present in an amount of up to 50 %, thus disclosing the general conditions of the claim and providing motivation for the bottom end of the range up to about 50%. Falat discloses the activated carbon particles are present in an amount up to 95% thus disclosing the upper end of the range and providing motivation for such; Falat discloses amounts of between about 2 and 80 wt. % of the substrate on a dry basis (col. 2, line 67 to col. 3, line 1), as recited in **claim 22**; about 5 and 75 wt. % (col. 3, line 3) as recited in **claim 23**; 10 and 30 wt. % (col. 2, line 67 to col. 3, line 1), as recited in **claim 24**. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the particles in the claimed ranges of amounts since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

**With respect to claim 25**, Niki discloses the substrate 1 (column 2, lines 25-27) contains a nonwoven web, paper web that can be airlaid or wetlaid or a combination thereof (column 3, lines 13-33; column 5, lines 3-20). See also Falat discloses the substrate contains a film (col. 1, line 48) paper (col. 1, line 51) and combinations thereof (col 1, line 51-52).

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**With respect to claim 26**, Niki discloses the substrate contains a wetlaid paper web (column 5, lines 3-15; column 5, lines 54-61 disclosing other methods of making the substrate).

The examiner notes that the manner in which the paper is formed, i.e. wet or air laid, is a product-by-process limitation drawn to the method of forming the paper. The claims are drawn to a product rather than methods of forming products. Even though the claim is limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

The prior art discloses the substrate contains paper, thus disclosing the product; therefore the method of forming the paper does not lend additional patentable weight.

**With respect to claim 27**, Niki discloses the claimed invention except for the substrate contains a film. Niki, at column 5, lines 54-61, provides motivation for the substrate to comprise other members of the absorbent article. Falat at column 1, lines 41-52, teaches odor sorbent ink applied to flexible substrates including film, papers and other laminates for the purpose of absorption of objectionable odors, and teaches the suitability of film, thus providing motivation for such (col. 2, lines 44-46, col. 1, lines 48-52). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the substrate of Niki as film as taught by Falat since Falat states, at column 2, lines 55-62, that such odor sorbent film substrates are suitable for use in many different applications where odor sorption is desired.

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**With respect to claims 28, 32 and 34**, Niki discloses the claimed invention except for the binder is a styrene-acrylic binder (**claim 28**); the ink is applied to the substrate as an aqueous solution (**claim 32**); the activated carbon particles are present in the ink in a greater amount than the binder (**claim 34**). Niki discloses a binder applied to a substrate as an aqueous slurry and the activated carbon particles are present in the ink thus providing motivation for such. Niki discloses both activated carbon particles and binder thus disclosing the general conditions of the claim but remains silent on amounts. Falat teaches styrene-acrylic binders (column 2, lines 47-50); the ink applied to the substrate as an aqueous solution (col. 2, lines 53-56); the activated carbon particles are present in the ink in a greater amount than the binder (Table 1, column 3).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the styrene-acrylic binder and activated carbon particles in amounts applied as aqueous solutions as taught by Falat for the substrate of Niki since Falat states, at column 2, lines 37-51, that the benefit of using such binders and amounts of activated carbon particles is that it provides acceptable adhesion of the ink for coating flexible substrates and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 35-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niki et al (US 6,657,098) in view of Falat et al (US 6,639,004).

**With respect to claim 35**, Niki discloses a personal care product comprising a liquid impervious baffle 22; a liquid pervious liner 21; an absorbent core 11 (column 2, lines 16-18) positioned between the baffle 22 and the liner 21 (column 1, lines 51-54 and lines 58-60); and a



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liquid pervious odor sorbent substrate 1 positioned between the baffle 22 and the absorbent core 11 and between the liner 21 and the absorbent core 11 (column 2, lines 16-18), and wrapped around the absorbent core in a manner that one or more sides are left open (column 2, lines 16-23; fig. 2, teaching the odor sorbent substrate is wrapped around the core in a manner that the end sides are left open), wherein the substrate 1 has a surface 2 that is coated with a durable activated carbon ink (column 2, lines 25-49), the activated carbon ink consisting of activated carbon particles (column 4, line 16-21) and a binder (column 5, lines 1-12).

Niki discloses the claimed invention except for the binder is a styrene-acrylic binder and the carbon ink is durably attached to the substrate. Niki discloses a binder thus providing motivation for such and disclosing the general conditions of the claim. Falat discloses a styrene-acrylic binder (column 2, lines 47-50) and the carbon ink is durably attached to the substrate (column 2, lines 25-26 and lines 57-65, teaching the ink does not rub off, disclosed in the instant Specification at paragraphs [0041-2] as suitable embodiments of durably attached coatings).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the styrene-acrylic binder as taught by Falat for the ink of Niki since Falat states, at column 2, lines 37-51, that the benefit of using such binder is that it provides acceptable adhesion of the ink for coating substrates.

**With respect to claim 36**, Niki discloses the personal care product is selected from the group consisting of diapers, training pants, adult incontinent products, and feminine hygiene products (column 5, lines 48-52; column 4, lines 35-37).

**With respect to claims 37-39**, Niki discloses the claimed invention except for the

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activated carbon particles are present in an amount of between about 2 and 80 wt. % of the substrate on a dry basis, as recited in **claim 37**; about 5 and 75 wt. % as recited in **claim 38**; 10 and 30 wt. %, as recited in **claim 39**. Niki discloses activated carbon particles are present in an amount of up to 50 %, thus disclosing the general conditions of the claim and providing motivation for the bottom end of the range up to about 50%. Falat discloses the activated carbon particles are present in an amount up to 95% thus disclosing the upper end of the range and providing motivation for such; Falat discloses amounts of between about 2 and 80 wt. % of the substrate on a dry basis (col. 2, line 67 to col. 3, line 1), as recited in **claim 27**; about 5 and 75 wt. % (col. 3, line 3) as recited in **claim 38**; 10 and 30 wt. % (col. 2, line 67 to col. 3, line 1), as recited in **claim 39**. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the particles in the claimed ranges of amounts since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

**With respect to claim 40**, Niki discloses the substrate 1 (column 2, lines 25-27) contains a nonwoven web, paper web that can be airlaid or wetlaid or a combination thereof (column 3, lines 13-33; column 5, lines 3-20). See also Falat discloses the substrate contains a film (col. 1, line 48) paper (col. 1, line 51) and combinations thereof (col 1, line 51-52).

**With respect to claim 41**, Niki discloses the substrate contains a wetlaid paper web (column 5, lines 3-15; column 5, lines 54-61 disclosing other methods of making the substrate).

**With respect to claim 42**, Niki discloses the claimed invention except for the substrate contains a film. Niki, at column 5, lines 54-61, provides motivation for the substrate to comprise

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other members of the absorbent article. Falat at column 1, lines 41-52, teaches odor sorbent ink applied to flexible substrates including film, papers and other laminates for the purpose of absorption of objectionable odors, and teaches the suitability of film, thus providing motivation for such (col. 2, lines 44-46, col. 1, lines 48-52). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the substrate of Niki as film as taught by Falat since Falat states, at column 2, lines 55-62, that such odor sorbent film substrates are suitable for use in many different applications where odor sorption is desired.

**With respect to claims 43-45**, Niki discloses the claimed invention except for expressly reciting a styrene acrylic binder (**claim 43**); the activated carbon particles are present in the ink in a greater amount than the binder (**claim 44**); the ink applied to the substrate as an aqueous solution (**claim 45**). Niki discloses a binder applied to a substrate as an aqueous slurry and the activated carbon particles are present in the ink thus providing motivation for such. Niki discloses both activated carbon particles and binder thus disclosing the general conditions of the claim but remains silent on amounts. Falat teaches styrene-acrylic binders (column 2, lines 47-50); the ink applied to the substrate as an aqueous solution (col. 2, lines 53-56); the activated carbon particles are present in the ink in a greater amount than the binder (Table 1, column 3). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the styrene-acrylic binder and activated carbon particles in amounts applied as aqueous solutions as taught by Falat for the substrate of Niki since Falat states, at column 2, lines 37-51, that the benefit of using such binders and amounts of activated carbon particles is that it provides acceptable adhesion of the ink for coating flexible substrates and since it has been held that where the general conditions of a claim are disclosed in the prior

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art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niki in view of Falat and further in view of Tanaka.

**With respect to claims 46 and 47**, the combination of Niki and Falat disclose the claimed invention except for expressly disclosing the odor sorbent substrate can endure at least 10 cycles of a Taber Abrasion Test without visible transfer of the durable activated carbon ink coating.

Niki provides motivation to prevent the carbon from “falling off” of the substrate in order to provide a sufficient amount of odor sorbent to adsorb odors, at column 3, lines 1-20, discloses using fixing the activated carbon to the substrate 2 with at least one binder, thus providing motivation for the activated carbon to be fixed and bound to the substrate with binder. Tanaka, at column 5, lines 50-62, provides motivation for and teaches the use of binders for securing fixability of the activated carbon to the substrate. Falat, at column 2, lines 24-25 and lines 57-65, provides motivation for durable activated carbon durably attached to the substrate such that there is no “rub off” of the carbon from the substrate. The examiner notes that the instant Specification, at PG-Publication paragraphs [0041-2] use the “rub off” test as a correlation to the instant claimed Tabor Abrasion Test, thus Falat discloses the general conditions of a odor sorbent substrate wherein the activated carbon coating is durable and does not "rub off" of the substrate onto the thumb or finger of the user.

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Niki, Tanaka and Falat do perform a Taber Abrasion test, and thus do not disclose results of this test; however, Niki, Tanaka and Falat disclose activated carbon and binder coatings that are intended to be durable and not fall off or rub off of the substrate.

The odor sorbent substrates of Niki, Tanaka and Falat comprise substantially the same compositions of activated carbon, styrene acrylic binder applied to the above noted substrate materials, with little or no “rub off” or “fall off” of the carbon from the substrate, disclosed in the instant specification at paragraphs [0041-2] as being suitable tests of durability that correlate to the Taber Abrasion test of the embodiments of the instant claimed invention. Therefore the examiner has a reasonable basis to contend that the odor sorbent substrates of the prior art would endure at least 10 cycles of a Taber Abrasion test when tested under the same conditions as the instant odor sorbent substrate.

In the alternative, Falat, at column 2, lines 20-26 and lines 57-65, and Table 1, teaches carbon and binder coating compositions having ranges of carbon to binder ratios wherein coatings with low carbon and high binder ratios adhered well but had low odor sorption while coatings with higher carbon content and low binder ratios had excellent odor sorption but did not adhere well. Therefore one of ordinary skill in the art at the time the invention was made would recognize that increasing the amount of binder to carbon results in improved durability but less odor sorption while decreasing the amount of binder to carbon ratio results in decreased adhesion to the substrate but greater odor sorption.

In view of the teachings of Niki, Tanaka and Falat disclosing the desirability of fixing the odor sorbent to the substrate such that the odor sorbent does not fall off or rub off of the substrate, one of ordinary skill in the art would recognize that the preventing the odor sorbent

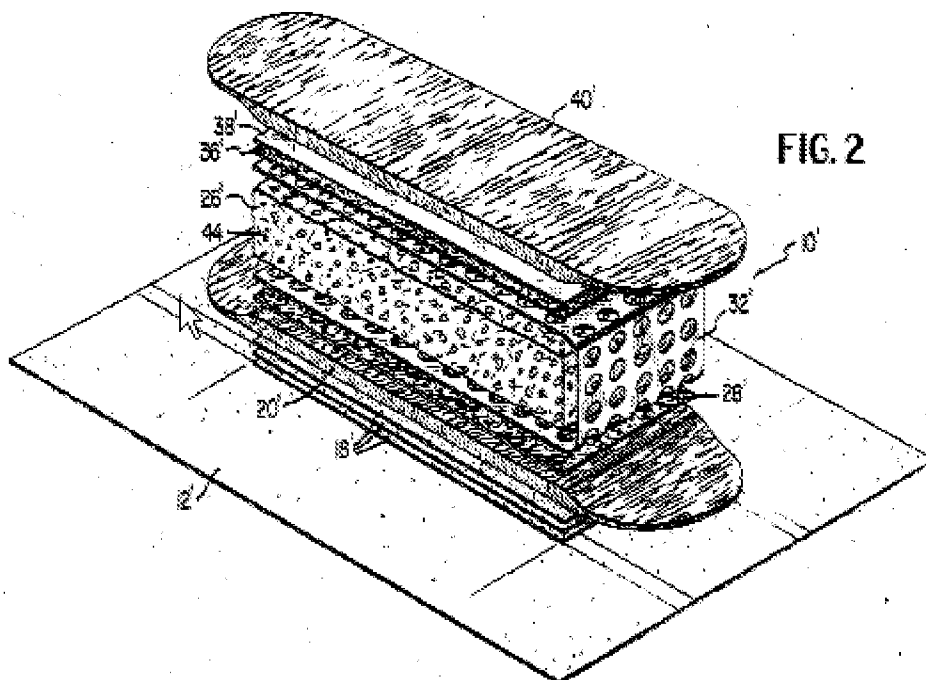
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from falling off would increase its ability to absorb odors within the article, therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the substrate having the properties meeting the claimed test results in order to provide an odor sorbent substrate with the odor sorbent durably attached thereto to obtain the results of adhesion and odor sorption as taught by Falat in the articles of Niki and Tanaka.

### Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Money (US 3,732,867) discloses an odor sorbent substrate wrapped around an absorbent core in a manner that one or more sides are left open:



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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginger T. Chapman whose telephone number is (571)272-4934. The examiner can normally be reached on Monday through Friday 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ginger T Chapman/  
Examiner, Art Unit 3761  
01/12/10

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3761